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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,496	06/01/2001	Tetsuya Nakashima	209128US0	8803

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EXAMINER

BOLDEN, ELIZABETH A

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 08/26/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,496

Applicant(s)

NAKASHIMA ET AL.

Examiner

Elizabeth A. Bolden

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,6,8,9,11 and 13-23 is/are pending in the application.
- 4a) Of the above claim(s) 17-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,6,8,9,11 and 13-16 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Any rejections and or objections, made in the previous Office Action, and not repeated below, are hereby withdrawn.

Claim Objections

Claim 14 is objected to because of the following informalities: Typographical error.

Claim 14 depends from claim 7, however claim 7 has been cancelled. It appears to the Examiner that claim 14 should depend from claim 6.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5, 6, 8, 9, 11, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohli et al., U.S. Patent 5,854,152.

Kohli et al. teach a glass composition comprising, in weight percent, 38-56 SiO₂, 10-28 Al₂O₃, 0-4 Li₂O, 0-6 Na₂O, 0-15 K₂O, 4-18 CaO, 0-5 MgO, more than 8 to 24 SrO, and 0-2 ZrO₂. See abstract of Kohli et al. Kohli et al. teach that 0-5 % TiO₂ can be added to the composition. See column 2, lines 28-34. Kohli et al. teach a range of thermal expansion coefficients from 60 to 90x⁻⁷/°C. See column 2, lines 12-14. Kohli et al. teach that the strain

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point of the glass is greater than 600°C. See column 2, line 6. These individual compositional and thermal expansion ranges overlap the individual compositional and thermal expansion ranges of claims 1, 3, and 5-7. Overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

Kohli et al. differs from the instant invention by not specifically teach a combined range of $\text{ZrO}_2 + \text{TiO}_2$ and $\text{Al}_2\text{O}_3 + \text{TiO}_2$. However, the ranges of TiO_2 , ZrO_2 , and Al_2O_3 taught by Kohli et al. overlap the amounts of “ $\text{ZrO}_2 + \text{TiO}_2$ ” and “ $\text{Al}_2\text{O}_3 + \text{TiO}_2$.”

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges disclosed by the Kohli et al. because overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

One of ordinary skill in the art would expect that a glass with overlapping compositional ranges would have the properties recited in claims 8, 9, 11, and 13-15.

Claims 1, 3, 5, 6, 8, 9, 11, 13-15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miwa et al., U.S. Patent 6,162,750.

Miwa et al. teach a glass composition having overlapping ranges of components with instant claims 1, 3, 5, 6, and 16. See abstract of Miwa et al. Miwa et al. teach that the glasses have a coefficient of thermal expansion in the range of 75×10^{-7} to $95 \times 10^{-7}/^\circ\text{C}$. See column 5, lines 55-58. These individual compositional and thermal expansion ranges overlap the individual compositional and coefficient of thermal expansion ranges of claims 1, 3, 5, 6, and 16. Overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

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Miwa et al. differs from the instant invention by not specifically teach a combined range of $\text{ZrO}_2 + \text{TiO}_2$ and $\text{Al}_2\text{O}_3 + \text{TiO}_2$. However, the ranges of TiO_2 , ZrO_2 , and Al_2O_3 taught by Miwa et al. overlap the amounts of “ $\text{ZrO}_2 + \text{TiO}_2$ ” and “ $\text{Al}_2\text{O}_3 + \text{TiO}_2$.”

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges disclosed by the Miwa et al. because overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

One of ordinary skill in the art would expect that a glass with overlapping compositional ranges would have the properties recited in claims 8, 9, 11, and 13-15.

Claims 1, 3, 5, 6, 8, 9, 11, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshii et al., U.S. Patent 5,925,583.

Yoshii et al. teach a glass composition having overlapping ranges of components with instant claims 1, 3, 5, and 6. See abstract of Yoshii et al. Yoshii et al. teach that the glasses have a coefficient of thermal expansion in the range of 75×10^{-7} to $100 \times 10^{-7}/^\circ\text{C}$. See abstract of Yoshii et al. These individual compositional and thermal expansion ranges overlap the individual compositional and coefficient of thermal expansion ranges of claims 1, 3, 5, and 6. Overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Yoshii et al. differs from the instant invention by not specifically teach a combined range of $\text{ZrO}_2 + \text{TiO}_2$ and $\text{Al}_2\text{O}_3 + \text{TiO}_2$. However, the ranges of TiO_2 , ZrO_2 , and Al_2O_3 taught by Miwa et al. overlap the amounts of “ $\text{ZrO}_2 + \text{TiO}_2$ ” and “ $\text{Al}_2\text{O}_3 + \text{TiO}_2$.”

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Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges disclosed by the Yoshii et al. because overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

One of ordinary skill in the art would expect that a glass with overlapping compositional ranges would have the properties recited in claims 8, 9, 11, and 13-15.

Response to Arguments

Applicant's arguments on pages 7 and 8, filed 20 May 2003, with respect to the 35 USC 103(a) rejections in view of Maeda et al. and Speit et al. have been fully considered and are persuasive. The rejections in view of Maeda et al. and Speit et al. of claims 1, 3, 5-9, 11, 13-16, and 24 have been withdrawn.

Applicant's arguments in view of the 35 USC 103(a) over Kohli et al., filed 20 May 2003 have been fully considered but they are not persuasive.

The Applicants argues that Kohli et al., (U.S. 5,854,152) does not disclose TiO_2 as a required glass component and that the reference does not disclose nor suggest the combined limitation of $\text{TiO}_2 + \text{ZrO}_2$ of at least 2.3 % or $\text{Al}_2\text{O}_3 + \text{TiO}_2$ of at least 11 %. These arguments are not deemed persuasive. Kohli et al. does teach the use of TiO_2 in the glass. See column 2, lines 30-31. The Al_2O_3 , TiO_2 , and ZrO_2 ranges of Kohli et al. overlap the claimed Al_2O_3 , TiO_2 , and ZrO_2 , and the combined $\text{TiO}_2 + \text{ZrO}_2$ and $\text{Al}_2\text{O}_3 + \text{TiO}_2$ ranges of the instant invention. Overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

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Applicants further argue that the limitations of the combination of TiO_2 with both ZrO_2 and Al_2O_3 are important components in the weathering resistance of the glass as shown in example 1-9 and 11-15 of Table 1. This is not deemed persuasive since Applicants' Example 10 in Table 1, which contains no TiO_2 , has comparable N_S and N_L values. Further more Applicants' disclosure states that TiO_2 is not essential. See page 10, line 156 of the instant disclosure.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Bolden whose telephone number is 703-305-0124. The examiner can normally be reached on 8:30am to 6:00 pm with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on 703-308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

EAB
August 13, 2003



DAVID SAMPLE
PRIMARY EXAMINER